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Treatment effect of probiotic *Bacillus Clausii* on Neonatal jaundice in late preterm and term newborn babies: An experimental study

C Jayakumar, Thomas Panikasseril Varghese, Anjana Gopi, Manu Raj, Remya Sudevan and Haripriya Jayakumar
Amrita Institute of Medical Sciences, India

Objective: To evaluate the effect of prophylactic probiotic *Bacillus clausii* treatment on the need and duration of phototherapy in newborn babies. Design: Open labeled clinical trial. Setting: Level II obstetric ward of a teaching hospital in Southern India. Participants: A total of 1043 babies with a gestational age of more than 35 weeks were enrolled in the study. There were 510 babies in the probiotic *Bacillus clausii* intervention group and 533 babies in the control group. Intervention: Intervention group babies < 37 weeks received 2 ml of *Bacillus clausii* (2.5 ml for those >37 weeks) twice a day for 3 days. Main outcome measure: The outcome measures were (i) Need of phototherapy and (ii) Duration of phototherapy. Results: A total of 32 babies in control group and 17 in intervention group required phototherapy. This difference in need for phototherapy was statistically significant between the two groups ($p = 0.04$). Treatment with probiotic reduced the risk of need for phototherapy by 44% (RR 0.56, 95% CI 0.32, 0.99). The median duration of phototherapy in the intervention group was 18 hrs (IQR 16.50, 24.00) and that of control group was 24 hrs (IQR 18.00, 48.00). This

difference in duration of phototherapy was statistically significant ($p=0.027$). No adverse drug reactions were noticed in the intervention group. What is already known: The management of neonatal jaundice depends on phototherapy and exchange transfusion. What this study adds: Prophylactic probiotic therapy appears to reduce the need and duration of phototherapy in neonatal jaundice. Conclusion: Prophylactic treatment of probiotic *Bacillus clausii* for three consecutive days reduced both the need as well as the duration of phototherapy in new-born babies.

Speaker Biography

C Jayakumar currently serves as Head and Professor at the Department of Paediatrics, School of Medicine, Kochi. He received his MBBS, DCH, and MD from Govt. Medical College, Thiruvananthapuram. He has served as the Head of Department at Govt. Medical College, Alleppey from 2015 - 2016 and has held teaching posts (Associate Prof. to Prof.) in Govt. Medical College of Kottayam, Alleppey, and Thiruvananthapuram from 1989 through 2016. He was also awarded the Fellow of Indian Academy of Paediatrics in 2011.

e: cjayakumar@aims.amrita.edu

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